



IN THE CLAIMS

1. (previously presented) A connector assembly, including:

a connector housing

at least two signal contacts arranged as a differential pair and at least one ground contact held in said connector housing, said at least two signal contacts being separated by a gap;

an impedance tuner block insertable into said connector housing, said impedance tuner block including a first wall having at least two channels notched therein, said impedance tuner block including isolation layers formed of a dielectric material and separating said channels, each channel receiving a corresponding one of said signal contacts and each isolation layer being inserted between adjacent signal contacts when said impedance tuner block is inserted into said connector housing, said impedance tuner block further including a second wall opposite said first wall, said second wall having at least one insert receptacle; and

an impedance adjusting insert in said insert receptacle.

2. (original) The connector assembly of claim 1 wherein said impedance tuner block includes a plurality of isolation ribs as said isolation layers, wherein one of said plurality of isolation ribs is positioned between two adjacent signal contacts.

3. (previously presented) The connector assembly of claim 1 further including a plurality of differential pairs of signal contacts, and a ground contact separating each of said differential pairs, wherein said impedance tuner block includes a plurality of isolation ribs as said isolation layers, said differential pairs being separated from said ground contacts by said isolation ribs.

4. (previously presented) The connector assembly of claim 1 wherein said signal contacts in said differential pair are arranged in a first plane and wherein said impedance tuner block retains said at least one impedance adjusting insert oriented parallel to said first plane.

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5. (previously presented) The connector assembly of claim 1 further including an impedance adjusting insert securable to said impedance tuner block adjacent to said at least two channels to overlap corresponding signal contacts received in said at least two channels.

6. (previously presented) The connector assembly of claim 1 wherein said impedance adjusting insert is held adjacent said differential pair.

7. (currently amended) An apparatus for controlling impedance within an electrical connector assembly including a housing and a plurality of signal contacts and a ground contact substantially coplanar with said signal contacts ~~held in said housing~~, said signal contacts being arranged in a differential pair; said apparatus comprising:

an impedance tuner formed of a dielectric material different than air and adapted to be interchangeably secured in said housing, said impedance tuner including dielectric isolation ribs along a side of said impedance tuner mating with the signal contacts, said impedance tuner being positioned proximate the signal and ground contacts, wherein signal contacts of the differential pair are separated from the ground contact by one of said isolation ribs.

8. (original) The apparatus of claim 7 wherein one of said plurality of isolation ribs is adapted to be positioned between every signal contact.

9. (previously presented) The apparatus of claim 7 wherein said impedance tuner further includes:

at least one impedance adjusting insert removably secured to said impedance tuner, said at least one impedance adjusting insert being oriented parallel to a plane in which said signal contacts are arranged.

10. (previously presented) The connector assembly of claim 7 further including an impedance adjusting insert securable to said impedance tuner block adjacent said signal contacts of said differential pair received in said isolation ribs.

11. (previously presented) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

a housing; and

a plurality of signal contacts and ground contacts aligned in a common plane, said signal and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner, comprising:

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned proximate said plurality of signal contacts and ground contacts, wherein said impedance adjusting metal insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.

12. (original) The system of claim 11 wherein said interchangeable impedance tuner includes a plurality of dielectric isolation ribs, wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts.

13. (original) The system of claim 11 wherein said interchangeable impedance tuner includes a plurality of dielectric isolation ribs, wherein one differential pair of signal contacts is separated from a ground contact by at least one of said dielectric ribs.

14. (previously presented) The system of claim 11 wherein said at least one impedance adjusting insert is a non-ferrous metal.

15. (previously presented) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

a housing; and

a plurality of signal contacts and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner including:

a plurality of dielectric isolation ribs on one side surface thereof;

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned within said housing proximate said plurality of said signal contacts and ground contacts, wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts, wherein said impedance adjusting insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.

16. (original) The system of claim 15 wherein said one of said plurality of dielectric ribs is positioned between two adjacent signal and ground contacts.

17. (previously presented) The system of claim 15 wherein said at least one insert is a non-ferrous metal.

18. (previously presented) The connector assembly of Claim 1, further including multiple sets of differential pairs of signal contacts, said differential pairs aligned in a common plane.

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19. (previously presented) The apparatus of Claim 7 further including a plurality of impedance adjusting inserts, said inserts aligned in a common plane.

20. (canceled)